UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,690	12/17/1999	PAUL H. LEAMON	4889:62	9186

7590   04/09/2003

ATTEN: GREGORY W. CARR
CARR & STORM, LLP
670 FOUNDERS SQUARE
900 JACKSON STREET
DALLAS, TX 75202

EXAMINER
BOYCE, ANDRE D

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 October 2002</u> .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-18</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-10 and 16-18</u> is/are rejected.

7) ☒ Claim(s) <u>11-15</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

October 28, 2002 has been entered.

2.   Claims 1-18 are pending.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

4.   Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the

technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature,

natural phenomena) that do not apply, involve, use, or advance the technological

arts fail to promote the "progress of science and the useful arts" (i.e., the physical

sciences as opposed to social sciences, for example) and therefore are found to be

non-statutory subject matter. For a process claim to pass muster, the recited

process must somehow apply, involve, use, or advance the technological arts. In

the present case the independent claim 1 only recites an abstract idea. The recited

steps of determining preferences, assigning an order of importance, determining a

difference value, assigning the difference value for each factor, calculating an

unassigned vector, and assigning a schedule does not involve, use, or advance the

technological arts **(i.e., processor, database, etc.)**, since the steps could be

performed using pencil and paper.

Additionally, for a claimed invention to be statutory, the claimed invention must

produce a useful, concrete, and tangible result. In the present case the claimed

invention isolates a cause of the problem, thereby producing a useful, concrete, and

tangible result, but not within the technological arts as explained above.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 7-10, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Castonguay et al (USPN 5,911,134), in view of Crockett et al (USPN

6,044,355), in further view of Gabriner et al (USPN 5,848,403).

As per claim 1, Castonguay et al disclose a method for assigning a group of

agents to a plurality of available schedules (see column 17, lines 65-67), comprising

the steps of determining preferences for a plurality of factors for each agent (see

column 18, lines 9-11), and assigning an order of importance for the plurality of

factors for each employee (see column 18, lines 14-18). Castonguay et al does not

explicitly disclose determining a difference value for each factor between a plurality

of schedules and each agent's preference for that factor, assigning the difference

value for each factor to an assigned vector for each agent wherein the factor having

the highest importance is assigned to the highest order bits of the vector and the

remaining factors assigned to subsequent orders of bits in their assigned order of

importance, calculating an unassigned vector for each schedule not assigned to the

agent, and assigning the schedule having the lowest vector to each agent. Crockett

et al disclose a vector (one-dimensional array, see column 5, lines 47-51) containing

"difference" values. Further, Gabriner et al discloses soft constraints (i.e.,

preferences) considered in producing schedules. Resource bit array 30 includes

and ordered set of bits, wherein a predetermined index (i.e., difference value

assignment) indicates a resource capability (see column 7, lines 40-45). Gabriner et

al also discloses an indexed location in each resource bit array 30 that indicates a

qualification that corresponds to a constraint in a task bit array 50 (i.e., unassigned

vector). Castonguay, Crockett, and Gabriner are all concerned with effective agent

scheduling, therefore it would have been obvious to one having ordinary skill in the

art at the time the invention was made to determine and assign a difference value

(as seen in the Crockett et al method) for each factor to an assigned vector within

the Castonguay et al method, wherein the factor with the highest importance is

assigned to the highest order of bits of the vector with the remaining factors

assigned accordingly, calculating an unassigned vector for each schedule not

assigned to the agent, and assigning the schedule having the lowest vector, as seen

in Gabriner. By using this vector assignment system the Castonguay et al method

would be able to rapidly and effectively evaluate and assign schedules based strictly

upon agent preference, just as the Castonguay et al method already implements for

tour coverage (see column 18, lines 33-42).

As per claim 7, Castonguay et al disclose the plurality of factors being selected

from the group of start times, break times, lunch times, days off, end time, lunch

length, split shift parameters, and hours worked (see column 18, lines 14-18).

As per claim 8, Castonguay et al disclose the plurality of schedules being

preliminary assigned schedules (see column 18, lines 65-67 and column 19, lines 1-

3). Once the initial tour is generated in the Castonguay et al method, the preliminary

schedule is complete.

As per claim 9, Castonguay et al disclose the plurality of schedules being a pool

of schedules (see column 19, lines 34-35).

Claims 10, 16-18 are rejected based upon the rejection of claims 1, 7-9

respectively, since they are the computer program product claims corresponding to

the method claims.

Response to Arguments

7.   Applicant argues Crockett fails to teach or suggest that either net staff array or

skills-based array may be obtained from the difference between a plurality of

schedules and each agent's preference. The Examiner submits that the net staff

array in Crockett indeed calculates a "difference" value as seen in column 5, lines

46-51. Further, the schedule may then be refined to include agent preferences,

which would be included in the difference value of the array.

In response to applicant's argument that the examiner's conclusion of

obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon

hindsight reasoning. But so long as it takes into account only knowledge which was

within the level of ordinary skill at the time the claimed invention was made, and

does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209

(CCPA 1971). Further, the Examiner submits Crockett's disclosure of the

"difference" value used in the net array (as seen above), applicable to schedule

preferences, as motivation therein.

Allowable Subject Matter

8.   Claims 2-6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9.   Claims 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Moore-Ede et al (USPN 5433223) discloses creation of bio-compatible schedules for shift workers.

-Leggett (USPN 5185780) discloses predicting agents required to provide a given level of service.

-Tonisson (USPN 5903641) discloses an agent vector that monitors selected performance parameters of a call center.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andre Boyce whose telephone number is (703) 305-

1867. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 305-

7687 for regular communications and After Final communications, and (703) 746-

7305 for informal/draft communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703)

308-1113.

Susanna Diaz
Susanna Diaz
Patent Examiner
Art Unit 3623

adb
April 2, 2003